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ABSTRACT

This study examines the interactive roles of social, cultural, and cognitive developmental factors in determining children's moral and achievement judgments. A total of 1485 male and female Iranian children/students of diverse social background (ranging in age from 4-18) served as subjects. Subjects were asked to evaluate (reward/punishment) the moral and achievement behavior of a story protagonist under conditions which varied systematically in terms of the protagonist's ability to perform a moral or achievement act, his/her good intentions and the outcome. Results indicated that for moral judgments the sociocultural variables such as sex and socioeconomic status significantly modified the age-related patterns of responding, while for achievement judgments they were of little or no importance. For both moral and achievement judgments, the response variation attributed to sociocultural factors occurred by and large at the earliest age levels, converging toward similarity after age 9. For achievement judgments, the role of effort was highlighted and expectation that cognitive maturity should lead to an increasing focus on intent/effort was demonstrated. (Author/JMB)

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ACHIEVEMENT AND MORALITY:

A FURTHER CONSIDERATION OF CULTURE, DEVELOPMENT, AND

ATTRIBUTIONAL PROCESSES¹

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Running Head: Achievement and Morality

Abstract

This study focuses on the interactive roles of social, cultural, and cognitive developmental factors in determining moral and achievement judgments. 1485 male and female Iranian children/students of diverse social background and ranging in age from 4-18 served as subjects. Subjects were asked to evaluate (reward/punish) the moral and achievement behavior of a story protagonist under conditions which varied systematically in terms of the protagonist's Ability to perform a moral or achievement act, his/her good Intentions and the Outcome. A response surface analysis was employed in order to ferret out the separate and interactive effects of social, cultural and cognitive developmental factors in determining moral and achievement judgments. Results indicated that the judgments were a product of complex interactions of these factors. Age-related, cognitive developmental, patterns were subject to important modifications by sociocultural variables, especially in the case of moral judgments. It is of special interest that in this still fairly traditional Islamic society, sex of subject appeared as a major modifying variable.

Achievement and Morality

A Further Consideration of Culture, Development, and
Attributional Processes

This paper is concerned with developmental changes in causal attribution and evaluation in two critical, and probably interrelated behavioral domains: achievement and morality. Its more specific focus is on the interaction of social, cultural and developmental factors in determining causal attribution and evaluation.

Recently, achievement, morality, and socialization in general, have been increasingly viewed as a product of cognitive growth. The initial impetus for this perspective doubtless rests largely in the work of Piaget (for example, 1948), although there are many others, such as Kohlberg (e.g., 1969, 1976; see also Lickona, 1976), who have contributed significantly to this trend. Of primary importance to the present study is the work of Weiner (e.g., 1974; 1977). Briefly summarized, Weiner's major contribution has been to link the realm of achievement, along with morality, to cognitive socialization. Therewith, he has provided a new and stimulating perspective on the development of achievement motivation.

Elaborating on Piaget, Kohlberg, and others, Weiner assumed that attributional tendencies evolve systematically, largely as a function of basic changes in intellectual functioning. In the early stages, children tend to judge the significance of an action in terms of resultant material changes, in terms of the outcome of an act, regardless of the intentions involved. As they mature, children increasingly exhibit a tendency to judge moral and achievement behavior in terms of its underlying intent or the effort put forth, rather than in terms

of ultimate consequences. To test the validity of this line of reasoning, Weiner and Peter (1973) contrived a procedure in which subjects (age 4 to 8) were asked to reward or punish the behavior of imaginary students engaged in moral and achievement acts. Three story facets were varied in a systematic fashion: (1) the Ability of the actor to perform the act, (2) the degree to which he tried (Effort or Intent), and (3) the Outcome of the action. By systematically comparing the rewards/punishments administered when the three story facets were present and absent, it was possible to determine the specific effects of each facet on the judgments made. The results were largely as predicted. Regardless of sex or race, younger subjects (ages 4 to 9) placed more importance on the Outcome of an action. Around the ages of 10 to 12, however, Intent or Effort replaced objective Outcome as the main determinant of both moral and achievement judgments. An interesting difference in moral and achievement judgments was noted in the case of subjects 12 and older. Whereas Intent was clearly more important than Outcome in evaluating Moral behavior, Outcome as well as Effort were apparently critical in determining how these older subjects evaluated achievement situations. That is, in achievement situations it was not sufficient merely to try, what was produced by trying was also important. In interpreting these results Weiner and Peter suggested that the "deviation" exhibited in the case of achievement judgments represented the influence of cultural factors. Presumably, when it comes to achievement, the dominant culture in the U.S. lays stress on performance, on what is produced, or on Outcome. As a result, a kind of "regression" in development is effected as the result of some undefined social influence factors.

In cognitive developmental theory, stress is placed on the virtual invariance of developmental sequences across social and cultural groups. Thus Weiner and Peter's suggestion of an interactive role for social and cultural factors is especially intriguing. This intrigue is enhanced by a second study. Salili, Maehr, and Gillmore (1976) replicated the Weiner and Peter study in a manifestly different cultural context. The setting was Tehran, Iran and Iranian school children of varying social background served as subjects. Important similarities, as well as significant differences, with the findings of Weiner and Peter were found. In the case of achievement judgments, while effort became more important as Iranian subjects increased in age, there was no regression of the oldest subjects to the patterns of the youngest stage as was the case with American subjects in the Weiner-Peter study. That is, older Iranians continued to be more and more Intent/Effort oriented both in the moral and in the achievement domains. Salili, Maehr, and Gillmore suggested that this difference between Americans and Iranians could very well be explained in terms of cultural factors. In the U.S., presumably, the prevailing ethic is that it is not just good enough to try--one must also produce: in Iran it is critical, and perhaps sufficient, that Effort is put forth. Iranian folklore and literature are known to be full of exemplar personalities who are appropriately rewarded because they have tried or had good intentions. More generally, Salili, Maehr, and Gillmore raise the question of whether the differences exhibited by U.S. and Iranian subjects are, in fact, representative of a more general pattern. Possibly, the dual Effort and Outcome orientation (U.S. subjects) characterizes societies in which status is conferred for achievement (producing an Outcome or product).

In contrast, the Effort orientation may characterize societies where status is ascribed and where, consequently, there is less interest in whether trying eventuates in a successful Outcome. In any event, Salili, Maehr, and Gillmore suggested that the "cultural regression" noted by Weiner and Peter with U.S. subjects may be a necessary precondition of a highly industrialized society.

A second major difference in the findings of the two studies is of interest. In the case of moral judgments, Iranian subjects punished high Ability, whereas they rewarded low Ability, reversing the pattern found in the U.S. Salili, Maehr, and Gillmore suggested that this difference might indicate that the Iranian subjects were actually at a higher level in regard to their moral judgments--expecting more from those with greater ability. Comparing the two societies, they observed that Iranian society, still heavily influenced by Islamic traditions, is based on and more clearly tied to a value system which focuses specifically on the nature of the moral life.

A third noteworthy difference occurred in regard to the evaluation of Ability in achievement situations. Briefly put, Ability itself, disregarding what one does with it, was apparently especially approved of by Iranian subjects. Salili, Maehr and Gillmore noted further that this finding was consistent with their ethnographic observations made in the course of living and conducting research in Iran, intermittently over several years.

While these differences in findings seem to indicate that social learning played a role in the evaluations made by subjects, the fact of the matter also is that these variations appeared to exist within an overall trend compatible with a cognitive developmental point of view. Indeed, if one would focus solely on the Salili, Maehr and Gillmore study, the overwhelming impression

is one of systematic age-related changes, with only occasional variation due to social/cultural factors. However, it must be kept in mind that the role of social/cultural factors was only minimally examined in these two studies. The Salili, Maehr, and Gillmore study did not allow for direct statistical comparison with the Weiner and Peter study. Moreover, the attempts to look at subcultural variables in both studies was, to say the least, limited. Above all, the size and nature of the samples allowed for only a limited consideration of the self-evident possibility that the judgments made were a function of the interaction of sociocultural and developmental factors.

Collectively, the Weiner and Peter and Salili, Maehr, and Gillmore studies suggest that both sociocultural and cognitive developmental factors are critically involved in determining causal attributions and evaluative judgments. Quite likely, it is the interaction of these factors that is, in many cases, critical. The present study seeks to determine when, to what extent, and to some degree, how these factors affect judgments. Following, an approach suggested by Maehr (1974; in press (a); in press (b)) and worked out in detail by Fyans (1977), a multi-level investigation was conducted in which the separate and interactive effects of age (and presumably cognitive developmental factors), immediate context (the response demands of the task), and social group membership (in this case SES and sex) on judgments could be considered, while incidentally also relating all these variables to a measure of achievement (school Grade Point Average). Note that few studies of this kind have sought to determine the relationship of subjects' judgments to an independent and objective measure of cognitive ability or achievement. Of course, it is of importance to determine whether or how these cognitive evaluations/attributions

relate to independently derived data on performance situations involving high level cognitive capacity. While this matter cannot be explored in as great a detail as it ultimately should be, we will consider specifically the relationships of the judgment variables to performance level in school. Performance in school is by no means a perfect measure of ability or achievement yet, it is perhaps the most reliable measure of these factors available for use with Iranian subjects at the present time.

Method

Subjects

The total sample consisted of 1485 male and female subjects, aged 4-18 years, who were attending government and "semi-private" elementary and high schools in Tehran. Government schools are entirely supported by the government; they charge no tuition and fees and their students are mostly of the lower and lower-middle socioeconomic classes. Semi-private schools are run by private individuals but are partially supported by the government; they charge tuition and fees and their students are drawn mostly from the middle and upper socioeconomic classes. Semi-private schools teach English as a second language and they have more facilities and extracurricular programs than government schools. Thus, in selecting subjects from these two types of schools a specific attempt was made to obtain a sample which was characterized by as wide an array of social class membership as possible. It should be emphasized, however, that the basic curriculum of all schools is uniform and that teachers have more or less the same amount of training (high school diploma plus two years of teachers training college for elementary schools, and a college degree for high schools).

For purposes of analyzing and interpreting the results, subjects were classified into five age groups in a manner comparable to Weiner and Peter (1973) and Salili, Maehr, and Gillmore (1976): (1) 4 to 6 years old; (2) 7 to 9 years old; (3) 10 to 12 years old; (4) 13 to 15 years old; and (5) 16 to 18 years old. But there were unequal numbers of subjects in each age group for several reasons. Since the government schools do not have kindergarten, it was impossible to obtain 4 to 5 year old subjects in these schools. The only source for 4 to 5 year old subjects was the semi-private schools and obtaining subjects required extra effort. But more important than this was the fact that the age of the subjects required special procedural adaptations. Subjects of the younger age group (4 to 6) were too young to understand the instructions in a group testing situation, and thus were tested one by one. Subjects who were a little older were tested in small groups of three or four while others were tested in large groups. Obviously, testing subjects individually was time consuming and expensive and, therefore, it was necessary to limit the size of the sample at the younger age levels.

Procedure

Eliciting moral and achievement judgments. The procedures followed were those developed by Weiner and Peter (1973) and adapted by Salili, Maehr, and Gillmore (1976). Briefly, subjects were presented with story situations in which they were to evaluate--recommend rewards and punishment--for the primary character in the story. Two basic themes were employed in the stories; one related to moral judgment and the other to achievement judgment. However, within these two basic schemes information on the presence (+) or absence (-) of Ability, Effort (or good Intent), and the success (+) or failure (-) of the Outcome was systematically varied with subjects responding to all variations.

For the moral judgment the basic test story concerned a little child who had lost his way home on the first day of school. He asked an older child to help him get home in time for lunch. The older child either knew the correct direction or not (+/- Ability), he either did or did not want to help (+/- Intent), and the little lost child either did or did not reach home in time for lunch (+/- Outcome). The names of the children involved in each of the eight possible situations (with the $2^3 = 8$ possible combinations of the Ability, Intent, and Outcome factors) were different, making up eight variations of the basic moral judgment story.

For achievement judgments, the basic test story concerned a teacher giving a math problem to a class and asking them to solve the problem. Information about eight different students were then given: they were either good in math or not (+/- Ability), made the effort to solve the problem or not (+/- Effort), and were either successful in solving the problem or not (+/- Outcome). Again, the names of the children on each of the eight story combinations of Ability, Effort, and Outcome factors were different. The eight combinations, thus, made up eight variations of the basic achievement judgment story.

The set of eight variations of the moral judgment story as well as the set of eight variations of the achievement judgment story, were all presented to the subjects orally. The stories were designed so that: (1) verbal facility would have little effect on judgment, (2) responses could be coded reliably in numerical values, facilitating analyses, (3) administration would require relatively short sessions and (4) a number of subjects could be tested together, using pencil and paper in most cases.

Subjects from first grade (about 7 years old) onwards were given a score sheet for their responses to each of the eight variations of the moral judgment stories and each of the eight variations of achievement judgment stories. For each response there was a 10 point scale on which subjects could mark their score with a check. The 10 points consisted of 5 degrees of reward and 5 degrees of punishment, indicated by giving a different color and number of stars. The youngest subjects (up to 6 years old) gave their response to each story orally which were then recorded on the same kind of score sheets. The following is an example of a scale on the score sheet:

GOLD STARS (Reward)

1	2	3	4	5
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RED STARS (Punishment)

1	2	3	4	5
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Instructions to Subjects. The initial instructions to older subjects were as follows:

I am a student and I am interested in your opinion about some situations. The answers that you will give and mark on your answer sheets will only be used for a survey that I am doing for my study. It will have no effects on your school grade whatsoever...

For the younger subjects, the initial instructions in the case of the achievement judgment story began as follows:

I am going to play a game with you. I will give you stories about children who are given a problem to solve by their teacher. After I tell you about each child, I want you to give him either gold or red stars, whichever he deserves. If you give red stars it means that you are not pleased with his work and you want to punish him. You

can give him 1, 2, 3, 4, or 5 red stars: 1 means a little punishment and 5 means a lot of punishment. If you give gold stars it means that you are pleased with the child. In that case, you can give 1, 2, 3, 4, or 5 gold stars as a reward: 1 means a little reward and 5 means a lot of reward.

To give subjects some practice in using the 10 point scale of reward/punishment, they were first of all given simple statements about individuals and asked to give a score for each of them. The translations of the statements are as follows:

- (1) Parvaneh is a little girl who helps her mother around the house;
- (2) Ali always beats his little sister;
- (3) Margess is a girl who is always tidy and clean.

These practice stories, given prior to the administration of the test stories, enabled subjects to familiarize themselves with the nature and use of gold and red stars.

Subjects from the kindergarten (4 to 6 years old) were tested individually and their responses more closely monitored by the experimenter. After each variation of a test story, they were always asked what color star they wanted to give and then how many of those stars. This helped to enable them to decide on their responses in two steps: the nature of the response (reward/punishment) first and then the magnitude.

Subjects from the first grade onwards indicated their responses to each of the variations of the test stories (read to them by the experimenter) by checking on each of the representative ten point scales. However, those in the first grade were tested in small groups of three or four, so that more

attention could be paid to them. Other subjects were tested in classes during their regular school period. The amount of time required to solicit responses to the test stories was about one-half hour for the older students and up to one hour for the younger subjects.

Note on Scoring

In the computation and analyses of the subjects' responses, one to five gold stars (for reward) were given the numerical representation of +1 to +5 respectively while one to five red stars (for punishment) were represented by -1 to -5 respectively. Hence, a positive mean value obtained would indicate an average tendency to reward and a negative mean value would indicate a tendency to punish.

Note on Administration

In the case of both moral and achievement judgments, stories were written in a 2 x 2 x 2 balanced design, in which the story variable (+/- Ability, +/- Effort, or +/- Intent and +/- Outcome) were systematically varied. Subjects within each of the age groups responded to each of the eight story conditions. The sequence in which stories were presented varied across subjects through a randomization procedure.

Background Data on Subjects

In addition to the story judgments, information on academic performance and various information relating to the home background of subjects was obtained from school files and by interviewing both the subjects and their teachers. In some cases it was not possible to collect all necessary information from these sources and these subjects had to be eliminated from the analysis.

Socioeconomic Status (SES). According to the subject's personal data (including parent's education, occupation, and income, together with housing conditions) the first author and two other judges (a housewife and a graduate student in political science, both Iranians) independently classified each subject into either high, middle, or low socioeconomic class. Other socioeconomic class assignment procedures (such as those of Hollingshead and Redlich, 1949) were not used because a) these were not standardized for Iranian society, and b) social class distinction is still relatively clearly defined in Iran and, for the purpose of our tripartite classification, the gross intuitive approach was considered sufficient. Of course, the personal data on which the three judges based their classification are the same as the main sources generally used in designating socioeconomic status. As it turned out the raters were in complete agreement in 98 per cent of the cases. In the remaining two per cent, the classification of the majority was used in the assignment of subjects to SES categories.

Grade point average (GPA). GPA is the only standard and regularly available means for assessing school achievement in Iranian schools at present. All schools use the scale of 0 to 20, the latter being the maximum possible. The GPA is computed from examination results in individual school subjects. Parenthetically, it should be noted that the same subjects are taught in all schools and that the teachers are similarly trained. Although the subjects' available past GPA's were recorded it was the most recent GPA (of the current academic year or the last year) that was used to classify subjects into high, middle, or low achievers. The classification was done by computing frequencies of GPA's for each group and then dividing the frequencies into the three categories.

Experimental Design

The independent (or, predictor) variables in the present study can be divided into three classes. First, two variables were employed as guides for or indicators of cognitive development. These were Age (five levels...4-6, 7-9, 10-12, 13-15, and 16-18 years old) and GPA (three levels...high, medium, and low achievers). Second, there were two variables concerned with membership in a given subculture: socioeconomic status (three levels...upper, middle, and lower classes) and Sex (two levels). The third type of independent variable related to the immediate task, the situation to be judged by the subjects. Specifically, it was the variation in presence or absence of Ability, Effort (or Intent) on the part of the study protagonist and the Outcome (success or failure) of the event. The dependent (or, criterion) variable is the response of subjects to the stories. Since each individual subject was given all the stories with the eight possible combinations of Ability, Effort (or Intent), and Outcome, these three variables could be considered as repeated measures on subjects.

Results

The major data analysis procedure employed was "response surface analysis" (Finn, 1974; Myers, 1976; Neter & Wasserman, 1974), a form of step-wise multiple regression analysis. Given the sample size, this procedure allowed for the desired, simultaneous, analysis of the relative contributions of age, situation parameters associated with the story to be judged, and social context--along with an independent index of achievement. Also, all interactions could be considered in this analysis as well, thus providing the kind of comprehensive and hierarchical perspective on the sources of judgmental

variance sought in this study. In addition to the story variable, then, age, SES, Sex, GPA, and all interaction terms served as predictor variables in the multiple regression equation. In the case of both moral and achievement judgments, the criterion variable was the algebraic summation of the ratings of stories under the Ability (present/absent), Effort-Intent (present/absent), and Outcome (present/absent) conditions. It may be noted that due to the large sample it was deemed advisable to set the significance level at $p < .001$.

Moral Judgments

The results for moral judgments are summarized in Table 1. An initial, very striking, observation is that the predictor variables are sufficient to explain almost all of the variance. Clearly, the selected predictors and their interactions comprise, or are comprised of, whatever is important in the explanation of moral judgments.

Insert Table 1 about here

Ability, Intent and Outcome

A scan of the predictors which are significant indicates that Intent is a major factor in determining the results. Of secondary importance is Outcome. Ability is of little or no importance in this regard, as is seen by the fact that it does not appear by itself or in combination with another variable as a significant predictor of story ratings.

Of the three story variables only Outcome emerges as a significant predictor which has effects independent from the moderating effects of the other variables. From a perusal of the various significant predictor terms, it is obvious that Intent is also an important factor in the determination of moral judgments. However, the importance of Intent is dependent upon and moderated by such other factors as SES, Sex, and Age. These factors

determine how and when the presence or absence of Intent will evoke positive and negative judgments. It may be noted, then, that the present results are generally supportive of the previous findings that morality is an "intent-oriented system." However, they have gone beyond this generalization to show how the use of Intent information varies not only with age but with socio-cultural factors. This essential point will become more evident as the various interactions are reviewed in the following sections.

Age and Moral Judgments

Of primary interest is the apparently critical role that Age plays as a modifying variable. As can be seen in Table 1, age appears repeatedly in combination with other factors in predicting judgments. A closer examination of the various interactions reveals almost interesting pattern: differences in judgment between the various Sex, SES, and CFA groups tends to occur before the age of 10. Thereafter, there is a kind of convergence of response patterns across the subject groups.

A more specific, yet important, concern within this general context is the use of Intent information at different age levels. A closer consideration of various of the significant predictors in which Age and Intent are factors indicates several things. Apparently, the difference in ratings, when Intent is present (+ Intent) and when it is absent (- Intent) does not increase appreciably over time. The underlying pattern here is that, while there is a slight overall tendency to reward +Intent increasingly with age, there is an off-setting tendency to be less punitive in response to -Intent. In any case, the major observation is that, in contrast to previous studies, the ratings of +Intent and -Intent do not become increasingly discrepant with increasing age. This might suggest the simple interpretation that, in opposition to expectations, Intent does not increase in importance with age.

SES

At least in the case of Intent, there is a clear indication that the SES groups responded differently. The SES x Intent interaction is significant and the coefficient positive, indicating that high SES subjects exhibited an overall punitive bias and lower SES subjects a positive bias in rewarding and punishing the presence and absence of Intent. It is more difficult to give such a direct interpretation of the results with Outcome, since the significant triple interaction (SES x Age x Outcome) does not readily lend itself to simple interpretation. However, the appearance of Age in this and in the quadruple interaction involving Intent should not be completely ignored. A closer scrutiny of the data reinforces a point alluded to above, namely that whatever difference exists in the responding patterns of SES groups, tends to occur before the age of 10. After that, age response patterns tend to converge. It bears repeating that this is a most interesting pattern, one that may well have important theoretical significance.

Sex

Sex emerges as a significant factor in the ratings. First, the significant Sex x Outcome term is of at least incidental interest. Basically, the negative coefficient indicates that females rewarded outcome more than males. The positive Sex x -Intent and Sex x +Intent coefficients indicate that the girls punished the absence of Intent more and rewarded its presence less than males. That is, overall, they exhibited a more punitive bias than did males. However, it should be noted that this tendency varied with GPA and SES. The general tendency for higher GPA subjects to demonstrate leniency is especially true in the case of females. This is indicated particularly by the significant

Sex x GPA x -Intent and Sex x GPA x +Intent predictors. Additionally, there is an indication (cf. the Age x Sex x +Intent predictor) that the positive bias of boys is age-related. Specifically, it apparently occurs more at earlier than at later ages. Here again, it appears that sub-cultural differences occur at earliest levels with responses converging with age. Finally, there is a suggestion in the results that female punitiveness is related to SES. The significant Sex x SES x +Intent term indicates that the overall tendency of boys to reward +Intent more than girls is most clearly demonstrated in the case of low SES groups.

GPA

As already noted, GPA is associated with subjects' ratings in a number of different ways. First, there is a negative relationship between GPA and the ratings, indicating that individuals with higher GPA were likely to be more negative in their judgments. But the coefficient is small ($\beta = -.041$) and this relationship should not be over-stressed. Of greater interest is how GPA modifies Intent and Outcome variables. The GPA x Outcome term indicates that high GPA subjects reward outcome less than low GPA subjects, a finding which certainly is not at variance with a cognitive developmental point of view.

If one assumes that GPA is indeed an acceptable indicator of intellectual competence, then it is quite in accord with a cognitive developmental perspective that the high GPA subjects are less affected by Outcome information in making their moral judgments. Similarly interesting is that the use of Intent information varies with GPA. Specifically, the higher the GPA, the more the presence of Intent is rewarded (cf. GPA x Intent interaction),

a tendency which increases with age (cf. GPA x Intent interaction); the higher the GPA, the less the absence of Intent is punished with age, apparently playing no modifying effect. In other words, high GPA subjects reward the presence of Intent, as cognitive developmental theory suggests they should, but the leniency in the absence of Intent is not readily explained in these terms.

Conclusion

The results are obviously complex and varied. However, several statements basically summarize the findings. The influence of cognitive development on judgments does not appear to be simple or direct, as might have been implied in earlier less comprehensive studies. While age-related patterns attributable to cognitive development occur, these patterns are significantly modified by sociocultural variables such as Sex, and SES. Particularly interesting is the finding that response variation attributable to sociocultural factors by and large occurs at the earliest age levels, decreasing at later ages. Diversity in response converges toward similarly after the age of 9. Is this because a certain threshold of cognitive development has now been reached by virtually all children, due perhaps to genetically determined factors? Is this because the school has now had its socializing--and conforming--effect? These are questions which deserve further and more extended consideration.

Achievement Judgments

Comparisons between results in the case of moral and achievement results are probably inevitable, but must be done with caution. Judgments in these two domains are, after all, based on two different stories which probably differ in certain structural characteristics apart from the moral or achievement theme. Be this as it may, the subsequent review of results will engage in the inevitable comparisons. At the very least they may have heuristic value.

The results of the response surface analysis are summarized in Table 2. Again, the high multiple R may be noted and taken as evidence of the comprehensive nature of the results. Interestingly, sociocultural variables appear to be of lesser importance in the case of achievement judgments than was observed in regard to moral judgments.

Insert Table 2 about here

Ability, Intent and Outcome

A glance at Table 2 suggests that all three story variables play a significant role in the determination of ratings. Note particularly that, whereas Ability was not important in the case of moral judgments, it is in the case of achievement judgments. But what may be surprising is that Ability is treated negatively ($\beta = -.345$). Actually, this finding is generally in accord with earlier findings and appears to stem from a general lack of punitiveness when a person lacks the ability to achieve. Also interesting is the positive rating of Outcome ($\beta = .280$). Apparently, in the case of achievement, results do count, as was also the case in the Weiner and Peter and Salili, Maehr, and Gillmore studies. Finally, the present results, based on a more focused analysis of variable interaction, emphasize to a greater degree, than the two previous studies, the dependency of Effort effects on other factors, particularly age.

Of at least incidental interest is the Ability x Outcome interaction. Closer inspection of this result reveals a pattern in which the presence of both Outcome and Ability eventuates in "over-reward." That is, subjects reward the protagonist in the +Outcome/+Ability condition to a greater degree

than they punish him/her in the -Outcome/-Ability situation. Moreover, it is interesting that whereas the +Outcome/-Ability situation still eventuates in positive ratings, -Outcome/+Ability eventuates in negative ratings. When one has ability, one is expected to produce. While the lack of ability elicits some tolerance, the presence or absence of Outcome seems to play an especially critical role.

Age and Achievement Judgments

Even a cursory glance at Table 2 indicates the pervasive role that age plays in modifying judgments. First, it may be noted in passing that there is an overall tendency toward negative ratings with increasing age ($\beta = -.110$). A closer analysis, however, indicates that the presence of Ability, Effort, and a positive Outcome is increasingly rewarded with age. The overall negative trend is a function of increased punishment when these story features are absent. Clearly, it is in the case of Effort that age-related trends are most prominent. Thus the Age x Effort interaction itself accounts for a relatively large share of the variance ($\beta = .766$). Moreover, it can be seen that a number of the other predictors involve an Age x Effort component. Briefly described, there is a strong trend for Effort to be rewarded as subjects increase in age. This trend exists, with only slight modification, across all SES, Sex, and GPA groups. Parallel to this, lack of Effort is rather moderately, but similarly, punished regardless of age.

Concerning Ability and Outcome the results are perhaps somewhat less clearcut. The significant Age x Ability interaction ($\beta = .116$) indicates an increasing positive bias in the judgments. Generally, this stems as much

from an increasing tolerance of -Ability as it does from an increasing tendency to reward +Ability. A consideration of the Age x Outcome coefficient ($\beta = -.170$) reveals an increasing negative tendency. A closer look suggests that it is the drop in rewarding +Outcome after the age of 9 that may be largely responsible for this finding.

Sex and SES

Interestingly enough, SES does not emerge as a critical component in the determination of ratings. Nor for that matter really, does Sex. The one interaction term in which it appears does not yield readily to theoretical interpretation. This is especially interesting in view of the fact that SES and Sex were a major factor in the determination of moral judgments.

GPA

It is clear that judgments vary as a function of GPA levels. Generally, high achievers rewarded +Effort and punished -Effort most, while such rewarding and punishing was less and mixed in the case of middle and low achievers. Similarly interesting is that the effects of GPA level are apparently greatest at the youngest ages. While there are inexplicable judgmental shifts thereafter, there is an ultimate tendency toward convergence.

Conclusion

Several things stand out in the results. First, the sociocultural factors of SES and Sex are of little or no importance, quite in contrast to the findings in the case of moral judgments. For this, and perhaps other reasons, the findings in the case of achievement judgments are considerably simpler and possibly more readily interpretable. Second, the role of Effort

in achievement judgments is highlighted. Moreover, the cognitive-developmental expectation that increasing cognitive maturity should lead to an increasing focus on Intent/Effort is more clearly demonstrated in the case of achievement than in the case of moral judgments. Finally, the tendency for response patterns to converge after the age of 9 is also present with achievement judgments.

Discussion

One cannot help but be impressed with the degree to which judgments are explained by the story variables in interaction with Age, Sex, SES, and GPA. The results leave little room for the predictive value of other variables, such as "personality," except as they may be correlated with these variables. Moreover, there are clear and systematic Age-related trends which are pervasive, even though subject to modification by Sex, SES, and GPA.

Focusing first on developmental patterns, several aspects of the results merit comment. Variation of responses as a function of such socio-cultural variables as SES and Sex is especially evident before the age of 10. Similarly, the crude indicator of individual differences in intellectual ability (GPA) seems to play a modifying role primarily before this age. It is worth stressing that this general pattern is to be found in both the moral and achievement domains. From a cognitive developmental standpoint, it might be suggested that a kind of threshold is typically reached at this age in which most can and do see beyond outcome to make judgments on the basis of Intent. This is about the age when most children should be capable of "concrete operations," which would presumably not only allow for but encourage

such judgmental patterns. All of this, of course, suggests that cognitive maturity, more or less, exclusive of social learning experiences, is the primary determining factor. Before jumping to that conclusion, an alternative interpretation might be considered, namely that by this age the school has now had its socializing and conforming effect on the child. Such an interpretation would focus heavily on the variation attributable to SES and Sex and have some difficulty with that related to GPA levels. In any case, one of the more fascinating aspects of the results is the variation extant before the age of 10, eventuating in convergence thereafter. What makes this finding doubly fascinating is that similar results have also been found by Nicholls (Note 1) in a comparative study of Maori and Pakeha children in New Zealand. In this case, Nicholls argues on the basis of observational data that the early differences are based on culturally determined differences in achieving orientations which are modified by schooling.

A second developmental pattern has been the special concern of the Weiner and Peter and Salili, Maehr, and Gillmore studies. That pattern is characterized by a tendency for Intent to increase in importance and Outcome to decrease in importance with age. This hypothetical pattern, which Weiner and Peter derived from cognitive developmental theory, exists but with some important exceptions. Indeed, the evidence from the two previous studies, together with the present one, indicates that if there is such a cognitive developmental tendency it is highly subject to modification by sociocultural factors. In any case, in the present study this trend is virtually nonexistent in the case of moral judgments, while prominent in the case of achievement judgments. In Salili, Maehr, and Gillmore, the trend was in evidence in the

case of both achievement and moral judgments; in the case of Weiner and Peter the trend exists with moral judgments but only in a somewhat modified form with achievement judgments. That is, whereas subjects increasingly rewarded Effort with age, the older subjects also returned to a pattern of rewarding Outcome as well. Thus, in the two previous studies there was in fact no simple age-related pattern in which Intent was increasingly rewarded and Outcome decreasingly rewarded, with age.

Regarding general differences in responsiveness to the two domains of achievement and morality, the findings, first of all, do not diverge markedly from earlier conclusions by Weiner and Peter and Salili, Maehr, and Gillmore that morality is an "intent-Oriented" system. Moreover, as also indicated in these earlier studies, Ability and Outcome are perhaps more crucial in the case of Achievement. The mere fact that such differences in stress occur in two domains which are presumably equally dependent on cognitive developmental influences in judgments, may suggest that social learning factors are critically operative. Further consideration of the differential role that SES and Sex play in these two judgments reinforces this point.

Clearly, sociocultural predictors were strongly involved in the case of moral judgments. They are of minimal importance in the case of achievement judgments. Why the morality domain should be more influenced by social/cultural factors is in itself an interesting question. Research on moral judgments from a cognitive developmental perspective typically minimizes the role that social learning can and does play. However, one may indeed wonder whether moral judgments are more socially malleable than judgments in the achievement

area. One may also wonder whether the malleability of the two systems depends on the culture. Neither of these questions are answerable from the present results, of course. Among other things, it must be stressed again that the moral and achievement judgments were made to two different stimuli which may involve possibly unplanned artifactual differences, quite apart from the substantive domain which they were designed to represent. Yet, the present study does push toward a basic understanding of cultural and psychological hypotheses and in this regard these overriding questions are not only intriguing but warranted.

At a more concrete level it is of special interest to learn that not only SES, but also Sex modified moral judgments. Recently, Turiel (1976) has reported that no difference of significance distinguish moral judgment patterns of male and female subjects. Similarly, Weiner and Peter report no sex differences in either the moral or achievement judgment area. Both of these studies were, of course, conducted in the U.S. It is most interesting, then, that in a society such as Iran we would find such sex differences. Iran presents an altogether different situation as far as sex roles are concerned. While the status of women in Iran is by no means what it once was, a clearer separation of the sexes than typically found in the Western world nevertheless remains. Indeed, it is probably still appropriate to speak of the existence of essentially two cultures associated with sex. What is interesting is that this differentiation of sex role and the existence of essentially male and female cultures eventuated in differences in moral but not achievement judgment.

Finally, the present study is in accord with Salili, Maehr, and Gillmore in finding that Iranian subjects tend to emphasize Effort rather than Outcome in achievement situations. Effort is clearly primary in the Iranian conception of achievement, as suggested by these data. Achievement Outcome is perhaps of importance at earlier ages but less so later. Moreover, the overall evaluation of Outcome is negative. Salili, Maehr, and Gillmore informally compared this same basic tendency with results found by Weiner and Peter with U.S. subjects and suggested that essentially different conceptions of achievement may well exist in the two societies with Iran stressing Effort and the U.S. demanding both Effort and Outcome. Certainly, this conclusion is in accord with informal evidence on the achieving patterns of the two societies, but, of course, the present study only suggests that a certain trend exists in Iran. Incidentally, however, the comprehensiveness of this study and the power of the results indicates, more than the Salili, Maehr, and Gillmore study could pretend to suggest, that this is indeed a reliable finding, warranting the larger inference that it reflects a significant underlying cultural characteristic.

Conclusion

This comprehensive study of the moral and achievement judgments of Iranian children and young adults suggests that social and cultural variables play a major role in modifying these judgments. This modifying role is clearly exhibited in the case of moral judgments and is most evident before the age of 10. Particularly interesting is that in a society where it can with some confidence be argued that separate male and female cultures are extant, one finds that sex of subjects appears as a major modifying variable. All of this

suggests that, at best, cognitive developmental theory provides a kind of loose framework for understanding developmental shifts. This is not to suggest that the cognitive developmental perspective is of no use in understanding moral and achievement judgments. Clearly, such loose frameworks have their place, as they already have in structuring the present series of studies. However, it is apparent to us that shifts in moral and achievement judgments depend on the interaction of sociocultural and cognitive developmental factors. Beyond this basic point, it is interesting and of some practical importance to learn that basic perceptions of moral and achievement events, vary significantly, not only from age to age, but from social group to social group. This observation needs to be explicated further, particularly so since it appears to lead to major implications for practitioners. It is likely, for example, that the differential perceptions of the causes of moral and achievement judgments can eventuate in problematic conflicts between a middle class teacher and lower class child in grading and in disciplining. Whereas previous research has often emphasized the conflict that may occur when an adult teacher deals with a child-student, the present research suggests that sociocultural factors may exacerbate such conflicts.

Reference Notes

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Footnotes

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Table 1

Summary of Response Surface Analysis:
Moral Judgments

Predictor Variable	Standardized Regression Coefficient	Standard Error of Regression Coefficient
GPA	-.041	.010
Outcome	.146	.015
Age x Intent	-.119	.012
SES x Intent	.091	.015
SES x Age x Outcome	-.026	.006
-Intent x +Intent	.109	.012
Age x SES x--Intent x +Intent	.080	.105
Sex x Outcome	-.047	.008
GPA x Outcome	.077	.012
GPA x -Intent	.717	.013
GPA x +Intent	.624	.018
Age x GPA x +Intent	.231	.017
Sex x -Intent	.765	.016
Sex x +Intent	.973	.021
Sex x GPA x -Intent	-.610	.015
Sex x GPA x +Intent	-.673	.016
Age x Sex x +Intent	-.148	.017
Sex x SES x +Intent	.131	.015
Age x SES x GPA x -Intent	.230	.016
Age x Sex x SES x GPA x -Intent	-.378	.017
Age x Sex x SES x GPA x -Intent x +Intent	.172	.014

R = .973

F = 5479.410

df = 1409

p = .000

Standard error of estimate = .783

Table 2

Summary of Response Surface Analysis:
Achievement Judgments

Predictor Variable	Standard Regression Coefficient (B)	Standard Error of Regression Coefficient
Age	-.110	.019
Ability	-.345	.027
Outcome	.280	.019
Age x Outcome	-.170	.022
Age x Effort	.766	.033
Ability x Effort	.064	.016
Age x Ability	.116	.029
Ability x Outcome	-.101	.013
-Effort x +Effort	.394	.040
-Effort x Outcome	-.190	.017
+Effort x Outcome	-.267	.016
GPA x -Effort	.324	.021
GPA x +Effort	.248	.018
Age x -Effort	.852	.031
Age x +Effort	-.353	.041
Age x -Effort x +Effort	-.067	.012
Age x -Effort x +Effort x Ability	.117	.018
Age x GPA x -Effort x Outcome	.182	.016
Age x GPA x +Effort x Outcome	.140	.017
Age x GPA x -Effort x +Effort x Ability	-.069	.013
Sex x +Effort x Ability	.200	.015

R = .983

F = 1963.023

df = 1490

p < .000

Standard error of estimate = 1.249